



Secretariat

Distr.
GENERAL

ST/SG/AC.10/C.3/2000/46
25 April 2000

ORIGINAL : ENGLISH

**COMMITTEE OF EXPERTS ON THE TRANSPORT
OF DANGEROUS GOODS**

**Sub-Committee of Experts on the
Transport of Dangerous Goods**

**(Eighteenth session, 3-14 July 2000,
agenda item 6 (c))**

**GLOBAL HARMONIZATION OF SYSTEMS OF CLASSIFICATION
AND LABELLING OF CHEMICALS**

Physical hazards

Extremely flammable criteria for aerosols

Transmitted by the expert from the United States of America

1. As has been previously noted in the discussions on criteria for flammable aerosols, United States consumer protection regulations and pesticide labelling regulations, in addition to a criteria for flammable aerosols, also include criteria for “extremely flammable aerosols”. These criteria are used to identify those aerosols where particular attention should be given to use conditions such as the extent to which the space where the aerosol is being used is ventilated so as to avoid the development of a flammable atmosphere. The risk of flammability for these types of aerosols is notably different from many of the aerosols that meet the flammability criteria under consideration by the working group. For example, hair sprays and other personal care aerosols frequently meet the aerosol flammability criteria currently under consideration. Normal use of these aerosols does not warrant special consideration of the ventilation in the space where they are being used. This is in contrast to aerosols which are classified as extremely flammable under U.S. regulations. Examples of extremely flammable aerosols include engine maintenance products such as engine starting fluid which typically contains high concentrations of diethyl ether and some spray paints.

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2. The current definition for extremely flammable aerosols used in the U.S. adapted to take into account the test provisions tentatively adopted at the December 1999 meeting is as follows:

“An aerosol is classified as extremely flammable if when tested by the ignition distance test method at 30 centimetres, a flashback (a flame extending back to the actuator) is obtained at any degree of valve opening and the flashpoint of the base product is less than - 5 EC.”

3. Based on further review of this definition in the light of aerosols available, we also believe that aerosols that contain high amounts of flammable components should be classified as extremely flammable. We propose that aerosols containing 85% or more of constituents having a flash point of 93 °C or below should also be classified as extremely flammable. However, there are instances when these aerosols with high amounts of flammable constituents have such low heats of combustion that they do not warrant labelling as extremely flammable. Therefore, it is further proposed that when the heat of combustion is less than that of 95% ethanol, the aerosol would also be excepted from the extremely flammable classification.

4. The following definition is proposed:

“An aerosol is classified as being extremely flammable:

- (1) if, when tested by the ignition distance test method at 30 centimetres, a flashback (a flame extending back to the actuator) is obtained at any degree of valve opening and the flashpoint of the base product is less than - 5 EC; or
 - (2) if the aerosol contains 85% or more of constituents having a flash point of 93 °C or below and the heat of combustion is greater than 95% ethanol.”
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